THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXXIX.] THURSDAY, AUGUST 14, 1873. [No. 7.

Original Communications.

CHILDREN'S DISEASES IN MASSACHUSETTS.

By J. O. WEBSTER, M.D. HARV.

Read before the Massachusetts Medical Society, June 5th, 1873.

IN selecting the subject of "Children's Diseases in Massachusetts," to bring before the Society at this time, I have been influenced by several considerations; chief among which are the importance of the diseases of children, the inadequate amount of attention that they have received, and the fearful infant mortality that prevails, especially in our larger cities.

The importance of children's diseases can hardly be over-estimated, concerning, as they do, those in whom the wealth of the community so largely consists, those upon whose soundness of body and of mind the hopes of the future so greatly depend.

The death of an individual, in or before the prime of life, inflicts a very considerable positive or prospective loss on the commonwealth. No other kind of loss would be borne with such equanimity, with so little attempt to discover and remedy its causes. The idea is too firmly fixed in the public mind that about *such an amount* of infant mortality is inevitable; an idea that receives much color from the mortality tables of various countries, but which we must regard as contrary to a sound philosophy. We would rather regard the death of a child as always an unnatural event, for which somebody, some where and at some time, has been to blame.

Children's diseases have not received and are not now receiving, from the profession at large, the attention that their importance demands. Without committing the absurdity of saying that they differ in nature from the diseases of adult life, we claim that they have such differences, in their course and symptoms, impressed upon them by the peculiarities of the infant constitution that they require to be studied almost from a point of view of their own; yet our medical schools are sadly deficient in professorships of children's diseases and in clinical advantages for their study, and their graduates are sent out with less knowledge of these than of any other affections they are likely to be called upon to treat. And although the literature of children's diseases is equal to that of any other branch of medicine, it is to be feared that there are too many physicians' libraries in which no work, devoted to this subject, can be found, or only some venerable volume that has long outlived its usefulness.

The rate of infant mortality, especially in our larger cities, is a subject of the profoundest interest to the social scientist, the sanitarian and the physician, to all of whom our registration reports present abundant food for study and reflection. The examinations that I have made of these reports, in reference to infant mortality, cover the six years 1865 to 1870 inclusive, and the deaths in the first five years of life. From these data, except where otherwise stated, are derived whatever facts I shall present in regard to the infant mortality of Massachusetts.

Proportion of infant mortality to 1,000 of population, in Massachusetts, and in the eleven cities having now a population of over 20,000 each.

	Population.	1865.	1866.	1867.	1868.	1869.	1870.
Massachusetts,	1,000	7.15	6.21	6.27	6.42	6.32	6.77
Eleven cities,	1,000	9.12	8.54	8.89	8.55	8.41	9.02
Rest of State,	1,000	6.18	4.88	4.79	5.11	5.15	5.27

For the years referred to, we find the infant mortality in the State to average about 6 1-2 in 1,000 of population; the highest rate being 7 1-4 in 1865, when diphtheria and dysentery were both epidemic, the lowest 6 1-5 in 1866. Taking the eleven largest cities, those of 20,000 and upwards population, we find their rate 8 3-4 per 1,000, while for the remainder of the State it is reduced to 5 1-5.

Percentage of deaths, in the first five years of life, to births.

	1st year.	2d year.	3d year.	4th year.	5th year.
Massachusetts (1865-70),	14.9	5.3	2.5	1.6	1.1
Eleven cities "	18.7	6.8	2.9	1.9	1.3
Rest of State "	12.3	4.3	2.2	1.4	1.0
England (Life table),	14.6	5.2	2.7	1.8	1.3

Looking at the subject from another point of view, we find that, of the children born alive in Massachusetts, about 15 per cent. die in the first year, 5 in the second, 2 1-2 in the third, 1 1-2 in the fourth, and 1 in the fifth, and that these figures are almost identical with those from the English Life Table. We also discover that, in the cities already referred to, 18 1-2 per cent. die in the first year, 6 4-5 in the second, 2 3-4 in the third, while for the fourth and fifth the mortality is only slightly in excess of that for the State at large.

We next purpose to glance at the causes of disease and mortality among the children of Massachusetts. We did intend to divide these causes into two classes, avoidable and unavoidable, but found so few that would strictly come under the latter head that we were forced to abandon the plan as impracticable. The arrangement that we have adopted is a natural one, taking up the causes in the order in which, beginning from his birth, a child would probably be exposed to their influence, as follows: congenital diseases and diatheses; residence; season; transgressions of sanitary laws, especially in regard to food, clothing, ventilation, exposure to improper temperatures and dosing; dentition; epidemic influences and infection.

CONGENITAL DISEASES AND DIATHESES.

Congenital diseases proper do not occasion a very serious amount of mortality, but of congenital diatheses this is by no means true. Tubercular and scrofulous diseases are the occasion of over ten per cent. of the deaths under five. In regard to the syphilitic diathesis, we cannot present statistics to show the number of its victims, but we know that the feebleness of constitution of the children of syphilitic parents renders them an easy prey to the various diseases of the developmental period, besides making them peculiarly liable to those low forms of inflammation that are called "scrofula."

Under the head of diathesis, we also find it convenient to class inherited weakness of constitution. The deaths most obviously due to this cause are those classed as "infantile," which comprise 8 per cent. of our infant mortality; but a very large proportion of the deaths of young children are due to their constitutional feebleness which renders them unable to bear up under attacks of illness that are, in themselves, quite trivial.

Of no class of sins is it truer than of sins against the laws of health, that the iniquities of the parents are visited upon the children; and while so many parents habitually violate every hygienic precept, children will continue to be born only to die in infancy.

RESIDENCE.

We have already referred to the infant mortality of our cities, especially in the first two years of life, when we find it bears the relation to that in the remainder of the State of 3 to 2.

The reason of this undesirable preëminence may be easily arrived at by an examination of the "Analysis of the mortality of Boston in 1870," in the Report of the State Board of Health, 1871. The Health Districts in which the greatest infant mortality occurred were those crowded with tenements, full of nuisances, and inhabited by a class of people that are neglectful of the entire code of sanitary laws. Such localities, with such inhabitants, are found only in large cities. They help to swell the aggregate of mortality, and make the reputation of the whole city suffer; unjustly so, since the best districts in Boston have a remarkably low rate of infant mortality. Hence we conclude that residence in a city, other things being equal, is as healthy for children as in the country.

Whatever influence locality of residence has upon mortality appears to act in the same manner upon infants and adults, except that the former are more susceptible than the latter to unhealthy surroundings. If we arrange the counties of Massachusetts in the order of *infant* and of *general mortality*, for 1870, the two lists are identical with the single exception of Nantucket, where the former is very low and the latter high, from well known causes.

SEASON.

The influence of season upon infant disease and mortality is so well known to all, that it would seem superfluous to indulge in any extended remarks upon this part of our subject; nevertheless, it will be interesting to glance briefly at the mortality tables from this point of view. Of the infant mortality of Massachusetts, about 20 per cent. occurs in the first quarter of the year, 20 in the second, 37 in the third, and 23 in the fourth. The high percentage in the summer months is due to the fact that intestinal diseases, the most important factors in our infant mortality, are those that are most influenced by season.

Mean Quarterly percentage of the Mortality from Cholera Infantum, Diarrhœa and Dysentery, and mean temperature, for six years, 1865-70.

	1st quarter.	2d quarter.	3d quarter.	4th quarter.	Total.
Cholera Infantum, .	1.63	3.88	84.46	10.03	100
Diarrhœa, ...	10.97	10.98	57.46	20.59	100
Dysentery, ...	3.07	5.47	76.43	15.03	100
Mean temperature, F.	26.8°	55.2°	67.0°	38.3°	46.8°

We find 84 per cent. of the deaths from cholera infantum, 57 per cent. from diarrhœa, and 76 per cent. from dysentery occurring in the 3d quarter.

The cold season, and the changeable weather of spring, are most fruitful in diseases of the respiratory system, about 60 per cent. of the mortality from pneumonia being from December to April, and the same proportion of that from croup, from November to March. Diphtheria has 40 per cent. of its mortality from October to January, but consumption destroys about an equal number of lives in every month of the year.

The fatality of the eruptive fevers appears to be affected by season, as 70 per cent. of the deaths from measles take place in the six months from March to August, and 65 per cent. of those from scarlatina in the six months from December to May.

TRANSGRESSIONS OF SANITARY LAWS.

To show how largely neglect of sanitary laws is responsible for infant mortality, it is only necessary to cite the case of those most conspicuous for their habitual violation of all such laws, our foreign population. For the four years, 1867-70, of all those dying in Massachusetts under the age of five years, 41.5 per cent. were of American and 58.5 per cent. of foreign parentage; while of the total mortality 55 per cent. were of American and only 45 of foreign parentage (Reg. Rep. 1870, p. 39).

In the Board of Health Report already referred to, we find that the infant mortality is very great in those parts of Boston inhabited by a class of people who are indifferent to the laws of health, being, in the worst districts, five times as great as in some peopled by the better class of Americans. We are inclined to attribute the variation in mortality of the districts almost entirely to the difference in regard to obeying sanitary laws. Natural advantages of location do not, by any means, rest with the healthiest districts.

FOOD.

Eighteen per cent. of our infant mortality occurs from diseases that can mostly be attributed to improper food. So many of our women are unable to nurse their children, and, even for those who can afford the expense, so difficult is it to procure the services of wet nurses, that artificial feeding has become probably the leading cause of the mortality among young infants. Artificial feeding is bad enough at the best, but we have all experienced how impossible it is, in most cases, to get the best method carried out. The community contains so many venerable females who know so much more than the doctors about feeding babies, who are so ready with advice on the subject, whether asked or not, and who are so absolutely certain that their way is right and any other leads to certain destruction, that no wonder young mothers give more weight to their experience than to our views, which they are apt to consider rather theoretical than practical. Consequently the poor babies are starved on arrowroot and other indigestible substances and die of marasmus or cholera.

But infants sometimes perish from improper food when fed solely from the breast. Many women, either from delicacy of constitution, from poverty and hardships, or from disease or intemperance, secrete a lacteal fluid insufficient in quantity or deleterious in quality, and their babies die of inanition or disease.

For older children the case is still worse if possible. How often, when called to attend a child, perhaps only in his second year, on asking what he is in the habit of eating, it happens to us to be answered, "oh, whatever the rest eat," which too frequently means pork and beans, brown bread, fried meats, hot biscuit, rich cake and the inevitable pie. *Credite experienti.*

CLOTHING.

If improper food holds the first place among the causes of infant mortality, unsuitable clothing follows not far behind. Fashion has, of late, come to the rescue in some measure, and prescribes a more rational dress for children than formerly; but infants in the first few months are still too often seen with naked arms and chests; and when the advent of short clothes arrives, the bare legs look "so cunning" that they are too apt to be left uncovered, even in winter.

As a rule, the clothing of children, all through the developmental period, presents a striking contrast to that found necessary for comfort by adults in the same temperature, while their ability of enduring cold presents an equal contrast, but in the opposite direction. It is of no use to argue the case with the average young mother; "it is the fashion" far outweighs, with her, "it is healthy." For those who are *above* the average, and inclined to follow the rules of common sense rather than the behests of fashion, one simple direction will suffice; always to dress a child more warmly than is required by an adult for the same temperature.

VENTILATION.

The quality of the air in their homes affects children more than adults for two reasons, the greater amount of time they pass within doors and their greater susceptibility to all morbid influences. We doubt not that the breathing of deoxygenated and impure air is one of the chief causes of scrofula and rachitis among children, deprivation of light being another important cause. At all events, a large part of the scrofulous and rachitic children are found among that class of our population who have not a due appreciation of the value of pure air and sunlight. Any one who wishes to see this part of our subject illustrated, can be abundantly gratified by a visit to almost any tenement house occupied by the lower class of foreigners or negroes.

IMPROPER TEMPERATURES.

Although the hardening process is not so much in vogue as it once was, traces of it still remain in two ideas that are strongly rooted in the minds of the community; that it is good for children to be taken out of doors every day, no matter what the temperature, and that it is healthy to sleep in a cold room.

It should be borne in mind that directions given for other countries, with very different climates, are not necessarily adapted to us, and because English writers advise that babies should be taken in the open air every day, it does not follow that the same should be done in Massachusetts. Many children are brought to premature graves every year by being exposed to our winter temperatures, which are habitually much lower than a child in the first two years of life can ear without injury. Dr. Holmes's idea of rearing under glass is onlyb a strong way of expressing the care that is necessary to bring children safely through our New England winters.

In accordance with the second idea we have mentioned, children, and even tender infants, are put to sleep in rooms where the temperature falls to or below the freezing point. Although a vigorous adult *may* endure such treatment without suffering any very obvious consequences, with a young child it is far otherwise. Air, at the temperature of 50° F., is probably as cold as an infant can breathe, without danger, while the vital powers are reduced by sleep.

DOSING.

So prevalent is the habit of *dosing* among all classes, and so sensitive is the infant organism to the action of drugs, that it is not surprising that here should be found quite an important source of disease and death among children. The immense sales of the popular soothing syrups and analogous nostrums, containing large proportions of opium, testify to the reckless drugging of which mothers and nurses are guilty. For an account of the effects of these opiate preparations, I quote the words of Dr. Tanner: "General emaciation, a withered, sallow countenance, red and swollen eyelids, derangement of the digestive organs with loss of appetite, and constipation of the bowels, with white stools."* If their use is continued, the child goes on from bad to worse, and dies in a state of marasmus.

Purgatives are excessively used even more generally than opiates, and are commonly considered the proper thing to give, to begin with, in almost any disease of childhood; so that many a simple diarrhœa becomes a severe enteritis by the assistance of a dose of castor oil; and many a child is rendered feeble and anæmic by the use of vermifuges and terebinthinate mixtures given for hypothetical worms.

DENTITION.

About three per cent. of the infant mortality of Massachusetts is attributed directly to dentition. Probably many deaths from other diseases are owing to it indirectly. It seems strange that a physiological process should be the occasion of so much loss of life, and physicians of high standing are not wanting, who deny that dentition exerts any special influence in the etiology of children's diseases, considering the supposed cases of this influence to be mere coincidences. Undoubtedly some have rated it too highly, but it appears well established that the child, during dentition, is more obnoxious than at other times to inflammatory affections of the nervous, respiratory and digestive systems.

The influence of dentition in the production of bowel diseases has probably been over-estimated, for this reason, that the follicles of the intestines are developing at the same time that the eruption of the teeth is taking place, and much less powerful exciting causes are necessary to produce diarrhœa than at other times. We also find that teething is more commonly attended with diarrhœa in summer and autumn than in winter.† Finally, diarrhœa is a rare accompaniment of dentition in infants reared at the breast.

Convulsions are quite often met with during teething, and are attributed to the undeveloped condition of the brain, whence the spinal nervous system, being without the restraining influence of the will, is excited to reflex action by very slight local irritations, in this case by the pressure of a tooth upon the inflamed gum. This affection, too, occurs mostly in infants fed artificially.‡

The increased liability of teething children to cephalitis, bronchitis and pneumonia is not so easily explained. Vogel, however, perhaps rather fancifully, attributes the bronchitis to the wetting of the clothes over the chest by the saliva, which is so freely secreted at this time.§

(To be concluded.)

---

* Diseases of Children. 2d Amer. Ed. p. 94.
† Smith. Wasting Diseases of Children. 1st Amer. Ed. p. 60.
‡ Clinical Lecture by F. Minot, M.D. Boston Med. and Surg. Jour., Jan. 2, 1873.
§ Diseases of Children. Amer. Ed. p. 110.

Progress in Medicine.

REPORT ON PUBLIC HEALTH.

By George Derby, M.D.

Asiatic Cholera in the United States.

The epidemic of 1873 has fairly begun. Its history must be given at a future time, but we can now record such facts as have come to us from trustworthy sources. The reports of the daily newspapers cannot be relied on, and we are therefore dependent for information on official weekly reports of the boards of health of several western cities and upon private correspondence. There is reason to believe that the interests of trade may even color some of these official documents; as, for instance, when we see seven deaths ascribed to cholera and twenty-five to cholera morbus. From the best evidence attainable at this time (August 4th), it is pretty certain that the disease first appeared in New Orleans some time during the month of April. There is nothing, however, as yet to show whether it was recently imported from Europe, or was a revival of the old seed of cholera left in that region from the epidemic of 1866. The disease was not known to exist in any part of Western Europe during the last winter or spring, but was distinctly recognized in Russia and Hungary, and its presence was spoken of at several other points. It is not difficult to see that among the emigrants arriving at New Orleans it may have been brought in an unsuspected way. There is no proof of its exact origin at New Orleans, but by the middle of May it was causing in that city a mortality of thirty a week. Thence it extended northward to Memphis, Natchez, and several other points on the lower Mississippi. Nashville, in Tennessee, was next attacked, and here the disease became for the first time virulent. The mortality, among the negroes especially, was very great, and the people were much alarmed. Its presence was next reported at several small towns in Tennessee and Kentucky and Missouri; then at Cincinnati, St. Louis and Louisville, but at neither of those great cities have the ravages of cholera been as yet very marked. Thirty deaths a week in St. Louis, in a general mortality of about two hundred, does not indicate a severe epidemic. Cholera has not at the present time been distinctly recognized on the Atlantic seaboard, nor have we heard of it as yet in the cities about the headwaters of the Ohio river. That it will come before long, there seems little reason to doubt.

Now is the time of all others to turn to advantage the public apprehension of the scourge, and to promote all measures which tend to secure the permanent purity of water and of air.

Prostitution controlled by Sanitary Law.

Many European cities have attempted to restrain and regulate this evil, which law can nowhere suppress. Their success has been but partial; never quite satisfactory, yet on the whole such as warranted the continuance of the system of public regulation. Recently, it has been tried in England, under the "Contagious Diseases Act," which applies only to the population of certain naval and military towns.

It would appear, from the British medical journals, that the effect of the law in diminishing venereal diseases in the public service has been most gratifying, and great efforts are now making, with a general but not universal support from the medical profession, to extend the provisions of this act to the whole English population.

It is a little remarkable that a law of this character should prove to be better adapted to English than to Continental communities, and even more surprising that it should be found to work still better in an American city. Yet this seems to be the case. The city of St. Louis, with a present population of about 400,000, has been trying this experiment for several years. It seems to have been adopted by the medical profession acting through the Board of Health, and by the police, as the best available means of diminishing disease and crime; of ridding the dispensaries and hospitals, and private practitioners of a flood of venereal cases, and of ridding the streets, bar-rooms, courts, and public places of scenes of scandal and disorder. It is claimed by the medical and police authorities to have accomplished all this in a quiet way, without oppression, and, moreover, that its operation is satisfactory, even to the parties whose freedom is put under restraint. Every prostitute is registered, and visited and examined for signs of disease once a week by medical officers appointed by the Board of Health. For this examination, a fee of a dollar and a half is collected, and every keeper of a bawdy-house pays fourteen dollars a month. All cases of venereal disease are transferred immediately to a hospital outside the city, which has been built for the purpose, where they are treated without charge. There are about 700 prostitutes in St. Louis, and the number is not greater now than six years ago, notwithstanding the prodigious increase of the general population.

The revenue to the health authorities from the special taxes above named amounts to $55,000 a year.

Venereal diseases have greatly diminished in number in St. Louis. This is true of private practice and of public institutions, and seems to be the universal judgment of the medical profession.

That there is violent opposition to this law on moral grounds is not to be overlooked. All the clergy oppose it, and even some physicians, while recognizing its good effects, believe that the means employed are unjustifiable. Meanwhile, the people seem quite willing to have the experiment go on. It is certainly one of extreme interest, and it will be carefully watched by other communities, both in this and foreign countries.

A Handbook of Hygiene. By George Wilson, M.D., Physician to Convict Prison, Portsmouth, England. Re-printed by Lindsay & Blakiston. 1873.

This book is to be commended without qualification. For the general use of physicians, of health boards, and of all those who are interested in the prevention of disease, it is a safe guide; giving the latest results of scientific research in an intelligible form, and furnishing replies to the perplexing questions which are constantly arising, as definite and clear as the existing state of knowledge will allow. Recent laws, both in France and England, have created a demand for books on hygiene, and the supply is abundant from mere bookmakers. Dr. Wilson's volume is not to be classed with them. It is evidently the work of an intelligent physician, whose special occupation in connection with a great prison has turned his thoughts to the preservation of the health of those in his charge, and has given him opportunity not only to prove the value of the opinions of Parkes, Pettenkofer, Simon, Morin, and other leading minds of the present day, but also to make valuable original observations. The chapters on Food and Ventilation seem to us of special interest.

Parkes' Manual of Hygiene must still be regarded as the highest authority on all the various subjects of which it treats; but for those who wish for a more brief and elementary treatise, Dr. Wilson's handbook will be found excellent.

Beziehungen der Luft zu Kleidung, Wohnung und Boden. Drei populäre Vorlesungen von Dr. MAX v. PETTENKOFER. 1872.
The Relations of the Atmosphere to the Clothing, Dwellings and the Ground. Three popular Lectures delivered by Dr. MAX v. PETTENKOFER.

The following is an abstract of these lectures, which deal with subjects lying at the foundation of sanitary science. The lessons they teach must be repeated in every form, and, surely, no one can present them with more force than Dr. Pettenkofer. Familiar truths are placed by him in new lights, and truths half recognized by the world, like the permeability of so-called solid bodies by the atmosphere, are made clear and practical.

The air, he says, is required by human beings principally for two purposes—for nourishing and for cooling the body. During twenty-four hours, an adult inhales and exhales, on the average, 9,000 litres, or about 360 cubic feet, 3,000 times as much, in volume, as he consumes in food and drink. Air being 770 times lighter than water, the 9,000 litres would weigh 11½ kilogrammes, or 23 pounds.

The proper performance of the functions of the body requires the maintenance of a definite temperature of the blood, which cannot vary in the individual more than one degree without injury to the health, and is nearly the same in man in every locality and under all circumstances, there being a difference of only about one-tenth of a degree between the temperature of the blood of natives of the tropical and of arctic regions.

In an adult, under ordinary circumstances, 3,000,000 units of heat are generated in twenty-four hours. By a unit of heat (Wärmeeinheit) is meant the amount of heat required to raise the temperature of one gramme of water 1° C. The heat, then, generated within an adult, in twenty-four hours, would be sufficient to raise the temperature of 3,000 litres of water 1°, or 30 litres from 0° to 100° C., or to the boiling point.

In order to explain, in part, the uniformity of temperature of the body, we are to consider ourselves as warm and moist bodies enveloped by the cooler atmosphere. Such bodies lose their heat in three ways—by radiation, evaporation and conduction.

By radiation, the escape of heat from the body amounts to 50 per cent. of the whole quantity generated. By evaporation, the loss of heat was determined as follows:—A man at rest lost, in the breath and from the skin, frequently only 900 grammes of water in twenty-four hours; while engaged in active labor, on the other hand, he lost 2000 grammes in the same time. Assuming, then, that 560 units of heat are required to vaporize one gramme of water, the above amounts give 504,000 units of heat as consumed in a state of rest, and 1,120,000 in active exercise. These results furnish an explanation of the fact that, during the most arduous labor, the temperature of the blood is not increased; indeed, in some instances, it is diminished.

The escape of heat in the third way, by conduction, is dependent upon the condition of the surrounding atmosphere, the rapidity of its motion, the amount of moisture contained therein, and its temperature.

The author then considers these methods of the escape of heat from the body, as they are affected by the clothing.

Radiation is interrupted from the fact that the heat, which escapes in this way, must first traverse the clothing from the outer surface of which it must again radiate. The heat, then, instead of radiating directly from the body, is retained for a longer or shorter period, in immediate contact with it. So-called diathermanous substances, which permit the passage of rays of heat without interference, do not enter into the construction of clothing. The latter is composed only of materials which absorb the heat. The passage of heat through the clothing depends essentially upon the conductibility of the material, and upon its mass. The entire immediate envelope of the body becomes uniformly heated by the radiating heat, and so we avoid, as a rule, the numerous injurious effects which would otherwise result from the application of sudden changes of temperature to the surface of the body. In the cold of winter we lose our heat without the sensation of chilliness, because we transpose from the surface of our body to the clothes, the locality in which the difference between our temperature and that of the surrounding atmosphere is adjusted. In animals, the same purposes are fulfilled by the insensible skin, hair and feathers.

The constitution, properties and color of different materials, in their relations to the radiating heat, have been studied principally by Krieger (*Zeitschrift für Biologie*, Bd. v. p. 476). He experimented with a metallic cylinder containing warm water, around which were wrapped the different materials. By the use of two layers, e. g. of linen and wool, linen and silk, &c., he was enabled to determine whether more heat escaped by radiation, when linen or wool, &c., formed the external layer. No essential difference, however, was furnished by wool, wash-leather, silk, cotton and linen. Neither did the color of the material occasion any important variation.

By the employment of heat from luminous bodies, however, such as the sun or a flame, the results were different. Though with clothing of different materials, but of uniform color, the results did not vary much, an essential difference was observed with the various colors, as follows: White, or nearly white materials, gave the proportions enumerated under (1); with shirting of various colors, the proportions given under (2) were obtained:—

(1) Cotton	100
Linen	98
Flannel	102
Silk	108

(2) White	100
Pale yellow	102
Dark yellow	140
Bright green	155
Dark green	168
Turkey red	165
Light blue	198
Black	208

Hence, when exposed to the rays of the sun, we feel the heat the most with black, and the least with white clothing. The increase in the degree of the absorption of the heat by the different colors, is quite notable. When we stand in the shade, however, or under cover, the difference is very slight.

The estimation of the amount of hindrance to the radiation of heat from the body, occasioned by the clothing, composed of several layers, introduces the subject of the conductibility of the different materials.

In the experiments previously given, Krieger proved that the radiation was not essentially affected by the employment of single or double layers of material. Making use of similar cylinders, he estimated the loss of heat from the contained water after definite intervals, employing first single and then double layers of various materials which were wound tightly around the cylinders. The diminished escape of heat, in the two cases, as illustrated by the following table, furnished data for the calculation of the amount of retardation of the escaping heat occasioned by conduction:—

The following numbers express the retardation in per cent.

Thin silk	3
Gutta percha	4
Shirting	5
Fine linen	5
Thick silk	6
Home made, thick linen	9
Wash leather	10 to 12
Flannel	14
Light buck-skin	12
Heavy " "	16 to 26

In other words, if 100 units of heat escape with one layer of thin silk, only 97 will escape when two layers are employed. These figures, too, suggest the conclusion that the retardation is not due to the material itself and its weight alone, but that its form and volume have an important influence upon the results. Thin silk and thick silk, fine and coarse linen, are the same materials, and equal pieces of the different qualities do not differ in weight proportionately with the difference in retardation of the heat conduction. This fact may be proved by making use of common wadding. If this is closely packed around the cylinder, the amount of heat lost is increased sometimes to 40 per cent. In this case, the material and its weight remain unchanged, while its form and volume alone are altered. Hence it is, that a new coat is warmer than an old one.

Again, if the first layer be adjusted closely to the cylinder, while the second layer is separated by about 1-2 to 1 centimetre, just as we wear clothes which feel easy and comfortable, then the second layer will occasion a still greater hindrance to the escape of heat. Illustrations of this fact are numerous; e. g., tight fitting shoes and gloves are very cold in winter.

The explanation of these facts is found in the air which is contained within the clothing. It is a common notion that the clothes are intended to shut out the air from our bodies. On the other hand, it is the fact, that those materials which experience has proved to be the warmest for clothing, are much more permeable to the air than those which are commonly known as "cold materials." The author experimented with different materials, (vide Zeitschrift für Biologie, Bd. I., p. 170,) with the view of ascertaining the degree of their permeability to the air. During equal intervals, under uniform pressure, and with equal surfaces of the following materials, he found that they were permeated by the following relative quantities of air, the most porous, flannel, such as is used ordinarily for clothing, being taken at 100:—Flannel, 100; linen of medium fineness, 58; silk, 40; buck-skin, 58; tanned leather, 1; chamois leather, 51. Hence, if the warmth of clothing depends upon the degree in which it keeps out the air from our bodies, then glove kid must be 100 times warmer than flannel, which, every one knows, is not the fact.

The whole question, then, is resolved into that of ventilation. If several layers of the same material be placed together, and the air be allowed to permeate through them, the ventilation through the second layer is not much less than through the first, since the meshes of the two form a system of continuous tubes of uniform diameter, and the rapidity of the movement of the air through these is affected merely by the resulting friction. Through our clothing, then, there passes a stream of air, the amount of which, as in ventilation, depends upon the size of the meshes, upon the difference of temperature between the external and internal atmosphere, and upon the velocity of the surrounding air. Our clothing, then, is required, not to prevent the admission of the air, but to regulate the same so that our nervous system shall be sensible of no movement in the air. Further, our clothes, at the same time, regulate the temperature of the contained air, as it passes through them, so that the temperature of the air between the clothing and the surface of our body averages 24° to 30° C.

The hygroscopic property of different materials used for clothing essentially modifies their functions. This property varies with the different materials; wool, for instance, takes up more water than linen, while the latter takes up and gives off its watery contents more rapidly than the former. The more the air is displaced by water from the clothes, the less will be their power of retaining the heat; in other words, they conduct the heat more readily, and hence we are quickly chilled by wet garments.

In the second lecture, the author considers the subject of the relations of the atmosphere to buildings. In general terms, the hygienic functions of the house are the same as those of the clothing. Its office is not to shut us out entirely from the external atmosphere. The substances employed in the construction of its walls, as we know, are permeable to water, and must, likewise, be permeable to air, to a certain degree, in order to insure comfort and health for any length of time. The common notion of the impermeability of the walls to air finds its explanation in the fact, that our ordinary sensations are not sensible of atmospheric movement when the velocity is less than one-half metre in the second. Every one knows that moisture will make its way entirely through even a thick wall. It must then be still more pervious to air, which is 770 times lighter than water, and more movable. By reason and analogy, then, and again by experiment, he demonstrates this latter fact in respect of wood, common mortar, bricks and most sand-stones. Compact lime or so-called quarry-stones, however, are very slightly or not in the least pervious to air. But it is to be borne in mind, that the intervals between these stones are filled with pervious mortar; the more irregular the stones, of course, the greater is the amount of mortar employed. It has been estimated that, in a wall of lime stone, one-third, of calc-tuff, one-fourth, of bricks, one-fifth to one-sixth, and of sandstone blocks, one-sixth to one-eighth of the mass is composed of mortar. It will be seen that the amount of mortar increases with the diminution of the porosity of the stone, and so serves, in a measure, to equalize the amount of air contained in the wall. It will be evident that the amount of air which passes through the material of a wall, of certain thickness, increases proportionately with the superficial area, a subject which is considered later, more in detail.

The behavior of porous constructive materials with water is quite peculiar. As a rule, when the pores are filled with water, they are impervious to the air. The adhesion of water to stone or mortar is as much greater than that of air, as water is heavier than air, a fact of great importance in a hygienic point of view. We all know that the dampness of new buildings is to be feared. In most countries of Europe, the occupancy of new buildings is not permitted until they have been pronounced sufficiently dry by the proper authorities.

By calculation, he shows, that the walls of a new house, containing 167,000 bricks, each weighing five kilogrammes, contain 83,500 litres of water, at a low estimate, which must be got rid of before the house can be occupied without danger to the health. This can be effected only by evaporation, which would require the passage over, and saturation of 1,360 million cubic feet of air, in round numbers, with a medium temperature of 10° C. in the climate of Dresden, during the middle period of the year.

In the investigation of the origin of the spots of moisture, which frequently appear on the walls of buildings after they have been pronounced dry, he shows that the common notion, which, too, is given in lectures and books, is erroneous. It has always been supposed that they were caused by the action of carbonic acid upon the hydrate of lime, which still remains in the mortar. He shows, conclusively, on the contrary, that they are occasioned by the deposit of water upon the wall from the atmosphere.

Upon an accurate interpretation of these spots, depends the correct understanding of the function of mortar in respect of its conducting to the outer air a large portion of the moisture which is developed in the interior of a house. We see, then, why we need to make use of porous materials in the construction of the walls of dwellings, in order to insure dryness.

The author then considers, somewhat in detail, the subject of the changing of the air within the house, which results partly from contamination and derangement of the enclosed atmosphere, and partly from ventilation properly so termed. The consideration of the former leads to the solution of two problems, viz.: what degree of contamination can exist without detriment to comfort and health, as determined by ordinary experience, and what estimate can be made of this degree of contamination, by the excretions of the skin and lungs, into the atmosphere of a close room? The former may be determined roughly by the senses of smell, taste and sight. More definitely, it has been determined by the amount of carbonic acid gas given off by the body. In this way, then, it has been found that 1 volume of the gas in 1,000 volumes of the air within a room, denotes, on the average, a very safe proportion. The determination of the second question was accomplished in the following way: The air of a room was mixed, to a certain degree, with carbonic acid. The supply having then been stopped, the diminution in the amount of the contained gas, in definite intervals, was measured. Taking into calculation, now, the amount of carbonic acid gas contained in the external air, it was possible to estimate the amount of the outer air which was required to mix with the air of the room, in order to occasion the ascertained rate and amount of diminution in the carbonic acid contained in the air of the room, within a definite time. This method takes no account of the influence of diffusion and absorption. Experience, however, has shown that the error, resulting from the neglect of these factors, is of little moment. By this method of calculation, the author was able to show that, in a room with closed windows and doors, the ventilation undergoes great and decided variations. On the average, for a room in which the air was continually notably pure, the ventilation was found to amount to 60 cubic metres per man and hour, a large amount when we recall the fact that a man does not inhale and exhale one-half a cubic metre in an hour. This result, it will be seen, corresponds exactly with that obtained in the Hospitals at Paris, by the practical experiment of introducing gradually increased quantities of fresh air into the wards, until the limit was attained at which the air continued clear and pleasant.

Experiments, made to determine the degree of the natural ventilation of cattle stables, under various conditions, were also employed to ascertain the amount of ventilation which takes place through the walls of dwellings constructed of different materials. Max Märker calculated for a wall surface, one metre square, and a difference of temperature of 10° C., that with walls of

Sandstone, . . .	0.169 cubic metres air,
Lime or quarry stone, .	0.232 " " "
Bricks, . . .	0.283 " " "
Calc-tuff, . . .	0.364 " " "
(Dried) Clay brick, .	0.512 " " "

expressed the amount of ventilation.

Märker also found that domestic animals require less ventilation than man; that the air of a stable may contain as much as three volumes in the 1,000, of carbonic acid gas, and that a cow, for example, requires a ventilation of only 30 cubic metres per hour, which is furnished, on the average, by

17.8 square metres of sandstone wall.
12.9 " " " limestone wall.
10.6 " " " brick wall.
8.2 " " " calc-tuff wall.
5.9 " " " (dried) clay brick wall.

"Since," he says, "the degree of the natural ventilation of a stable depends, not upon its cubical contents, but upon the superficial area of the ventilating surface of its walls, it follows that the ventilation in a small stable is relatively greater than in a larger one, since, for each animal in a small stable, there is a greater ventilating surface than is the case in a larger one." The application of this fact to dwelling houses is obvious.

In the third lecture, the author considers the subject of the air in its relations to the ground. As is the case with the clothing and with the walls of a house, the ground contains air, likewise in motion, though it is not perceptible to our ordinary sensations. The pores of the ground are filled either with water or air alone, or with the two together. This contained air is kept in motion, by the force of the external air, by differences of temperature, diffusion,—indeed, by everything which gives motion to gases. The permeability of the ground to air is well illustrated by the occasional cases of poisoning by illuminating gas which have occurred, even in summer, in houses situated at considerable distances from the locality where the gas escapes from the pipe. On the other hand, a reversed action occurs; that is, the natural ventilation of houses is effected partly through the ground and not merely through the walls. Of late, we have learned that the neglect of proper means for cleanliness on the part of our neighbors may be the cause of poisoning our wells. The same causes may also defile the air within the ground, and more readily, too, as the air pervades the ground more extensively and wanders about more easily than the water. While the dangers to public health are lessened by all so-called sanitary improvements, the author advocates, as most essential of all, the increased purification of the ground and diminution of the organic processes in the ground of inhabited localities, which processes are now proved to occur.

The author gives the details of experiments made by himself in Munich, and by Dr. Reinhard in Dresden, to determine the amount of carbonic acid gas in the ground at the depth of one half and four metres. The experiments were made by the author, in a barren locality, and were continued during fourteen months. Considerable variations were found at the different depths. Except during June and July, the amount was always greater at the depth of four metres. It was greater, also, in midsummer than in winter. In Dresden, the amount found in winter, on the contrary, was twice as great as that found in Munich in summer. Further investigations of this kind are required to give a definite idea of this subject. The question at once arises as to the source of this gas. The author shows that it does not originate from sources usually assumed, and asserts that the most natural explanation is that the ground itself is the source of this gas, as it occurs both in the contained air and water, and that it is produced by the organic processes which occur in the ground.

On the Presence of Arsenic in the Air of Rooms hung with Arsenical Wall-papers. By Dr. H. Fleck, Dresden. (Abstract.) (The original paper is in the *Zeitschrift für Biologie*, viii. (1872), p. 444.)

Although the poisonous character of the arsenical greens and the danger arising from their use have long been recognized, they continue to be used to a considerable extent, and that, too, in spite of legislative enactments.

Unmistakable cases of poisoning have arisen from inhabiting rooms hung with arsenical wall-papers, when, on account of the character of the paper or for other reasons, it has been impossible to ascribe the poisonous effects to portions of the coloring matter mechanically detached. For this reason, and because in certain cases the odor of garlic had been noticed in rooms thus papered, it was long ago suspected that there was actually generated, under some circumstances, arseniuretted hydrogen, or some similar gaseous compound of arsenic.

The conclusions of previous observers have, however, possessed the character of assumptions rather than of convictions founded upon experiment. The author has undertaken to answer, by direct experiment, the question, whether and under what conditions arsenical colors on the walls of a room can generate a gaseous compound of arsenic. The coloring matter used in the experiments was Schweinfurt green, an aceto-arsenite of copper, composed of oxide of copper 31.29 per cent., arsenious acid 58·65 per cent., and acetic acid 10·06 per cent. The author finds, however, that a certain amount of free arsenious acid is always present.

A paper was prepared so that to every square centimetre of surface there should be fifteen milligrams of combined arsenious acid. Starch paste was used to fix the coloring matter upon the paper, and also to fasten the paper to the inside of a large tubulated bell-glass. The bell-glass, thus lined and while the paste was still moist, was placed upon a well-ground glass plate, the tubulure was hermetically closed, and the apparatus was left to itself for three weeks. A growth of mould appeared between the paper and the glass sides, and the air within the jar acquired a musty odor. At the expiration of the three weeks, a slow stream of air was passed through the bell-jar, and the presence of arsenic was shown conclusively in the air as it issued from the apparatus. The arsenical compound, thus present in the air, gave, with a solution of a salt of silver, the ordinary reaction of *arseniuretted hydrogen*. A similar experiment, in which was employed a flask coated on the inside with a mixture of gelatin and Schweinfurt green, gave a similar result. It was found that a mixture of arsenious acid and starch paste gave rise to the formation of arseniuretted hydrogen, but no arsenic could be detected in air which had been in contact with a mixture of arsenious acid and water without the presence of any organic material.

From these and confirmatory experiments, the author concludes that there can no longer be any doubt of the possible presence of arseniuretted hydrogen in the air of a room hung with paper which is colored with Schweinfurt green; that the evolution of this gas takes place on account of the joint action of moisture and of organic matters (especially such substances as are used in fixing the paper to the walls); and that wherever free arsenious acid is in contact with organic substances, the evolution of the gas is possible. The danger, then, is by no means confined to Schweinfurt green, but may arise from any color which contains arsenic.

Bibliographical Notices.

Insanity in its Relations to Crime. By W. A. Hammond, M.D. New York: D. Appleton & Co. 1873. 8vo. Pp. 77.

The above essay, in part, appeared in Putnam's Magazine for September, 1870, under the title, "Society *versus* Insanity." The first chapter, in its present form, gives the details of three homicides in which insanity was the defence. The cases are taken from French sources, previous to 1854, and furnish the author his "Text"; but as the "Commentary" in the second chapter, barely alludes to them, we may dismiss them as intrinsically interesting, but in a measure superfluous, since parallel cases are of frequent occurrence.

We are more concerned with the writer's ideas of medical jurisprudence, which he gives at some length, substantially as follows: Sin and crime, he remarks, are not identical; the latter is to be measured only by the injury done to society; law and justice are, also, two different things. Justice need not be enforced between society and the individual unless consistent with the great law of protection. *Salus populi suprema lex.* The greatest good of the greatest number must be promoted, at the risk of property and life to the individual. Upon this basis, insanity must be dealt with.

Delusion, which in law is evidence of insanity, is no excuse for crime, in the author's opinion, unless *if true*, it would justify the criminal act. For instance, the melancholy mother, who believes her child to be in danger of perishing with cold and starvation, and kills it out of her insane pity, is to be held responsible, under this rule, because this belief, if true, would not justify her! The instance actually given, is that of a sailor who, during a storm at sea, killed a Russian Finn, under the delusion that his death alone would save the lives of the rest of the crew, and bring the ship to land in safety. The author thinks this sailor's delusion no excuse for his crime, and that, while death is the penalty for murder, such lunatics should be made to suffer. He thinks the tendency of such punishment would be to diminish the frequency of similar delusions!

Dr. Hammond goes still further in the interests of society, and says "some of the insane are such monsters of *depravity*, that they should be slain, upon the same principle that we slay wild and ferocious beasts." He also thinks murderers from morbid imitation, should be punished. He objects to the humane opinion of Mr. Francis Wharton, an eminent legal authority, when he says, that the consciousness of the *legal* relations of crime in an insane person, does not confer responsibility, where it does not otherwise exist. He approves the opinion of Dr. Mayo, that insanity is no excuse when the person is aware of the murderous tendency of his actions, "and in being unable to resist them is *only in the same predicament* with every recognized aspirant for the gallows."

In the case of David Montgomery, an epileptic, recently tried at Rochester, N. Y., Dr. Hammond disagreed with Drs. Gray and Cook, as to his responsibility. It was proved that he was insane from recent convulsions, for several days before the homicide, but on Dr. Hammond's testimony, that he was conscious at the time, he was convicted and sentenced to be hung. Drs. Gray and Cook testified to the familiar fact, that epileptics often talk and act quite rationally for several days, being meanwhile really insane, and are afterwards entirely unconscious of what has passed. This case was pending for a year and a half, when the prisoner became so demented as to require his commitment to the asylum for insane criminals at Auburn.

Dr. Hammond thinks a knowledge of right and wrong a sufficient test of responsibility, though not of insanity, and thus, too, in the legal sense; i. e., an individual, to be responsible, need not have any *moral* sense as to the nature of his acts, nor even a knowledge that his act is against the law, for that matter, since ignorance of the law is no excuse for crime. Any person having sufficient *capacity* to know his act is contrary to law, should be punished. He may have no moral sense; he may be intellectually an idiot; if he "has sufficient intelligence to know that pointing a loaded pistol at a human being, cocking it, and pulling the trigger, are acts which will cause the death of the person against whom they are directed, he should be subjected to the same punishment for a homicide as would be awarded for a like offence committed by a sane person."

"Emotional insanity and volitional insanity, or irresistible impulse, should," he says, "be allowed, generally, as much extenuating force as 'heat of passion.'" He doubts if irresistible impulse is ever, with the insane, more than *almost* irresistible!

The views above expressed, sound strangely from an expert, whose evidence so recently procured the acquittal of McFarland. Such opinions would seem very antiquated and extra conservative, even from an attorney general pleading for a conviction. They have certainly been abandoned by several high judicial authorities, and have plenty of precedents opposed to them, in decisions here and abroad. They do not reflect the opinions of any alienist of repute, nor the average opinion of the profession at large. They can only be explained in the writer, it seems to us, upon local and personal grounds.

In behalf of the insane individual, let us suggest, that society has no right to *more than protect* itself, by taking the life of a person for a homicide for which he is morally irresponsible, when confinement in a suitable hospital would answer the same end. Neither has law the right to *punish* an insane criminal in *prison*, as a convenient substitute for hanging, nor to *libel* him and disgrace his family by the imputation of crime.

T. W. F.

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, AUGUST 14, 1873.

A CORRESPONDENT finds much to complain of in our late editorial on the suppression of quackery. We publish his letter, though neither its matter nor its tone is much in its favor, because by exposing some of its fallacies we can strengthen our case.

The writer tells us that "the maxim 'a little learning is a dangerous thing' is false in theory and practice, gotten up for tyrants and aristocrats," &c., in the true "Elijah Pogram" vein, and hints that our sentiments are not truly loyal. As the best medical schools are undoubtedly in Europe, we do not see the force of this tirade. In the matter of expert testimony, we might learn much from some of the "effete despotisms of the old world," which would never tolerate such evidence as here disgraces almost every important criminal trial. We admit freely that we hope to see the profession a "ring," but one which every man of education and character can enter, and if it be aristocratic to decline the fellowship of others, we admit that charge too.

Further on, we are told that it is possible for non-professional people "to judge what *system* they should use and what practice they should adopt." We regret very much that it should be necessary to inform our correspondent that there are no "*systems*" in regular medicine. The fact that very many decently educated people believe in homœopathy is proof conclusive that they are *not* able to judge. The indignant denial that the "motto of the most pestilent class of quacks is public instruction," does not strike us as materially altering the fact.

It appears to us that the offence of our article consists in maintaining that the opinion of a man of education is better than that of one without, and we imagine that our correspondent holds that if the former decline to treat the crude theories of the latter with respect, he is an aristocrat who ought to be suppressed. We, too, "have no sympathy with the sentiment you must be *first*, *eminent* and *distinguished* in any branch and every calling" in which "you engage," but we believe that every one of fair ability is able to master *one* profession or calling, and that in others he should ask the opinion of those fitted by education to give one. With regard to the gloomy forebodings of our correspondent, we refer him to the JOURNAL of July 24th, which shows what progress the profession has already made in the suppression of quackery.

ONE would think that the experience of Boston, last winter, would be sufficient to serve as an example, at least to our own immediate neighborhood. But no. The town of Holyoke is submitting itself to the scourge of smallpox quite after the manner of good old times. The disease has been raging all summer, and no steps have been taken as yet to suppress it. The more we hear of the doings of "local authorities," the more we regret that our present system of government permits matters of such hygienic importance, involving the health, not of one but of many communities, to be left in the hands of the ignorant and inefficient.

GLYCOGEN AND GLYCOGENY.—The *Medical Times and Gazette*, June 21, 1873, in an article on this subject, concludes as follows:—

"Glycogen is formed in the liver; as it is converted into sugar, it is carried away into the circulation. Glycogen is no deposit in the liver, but really formed there; it may be formed from animal or vegetable food, but its formation is greatly stimulated by the use of sugar as an article of diet. Normally, sugar or glycogen is hardly to be found in the system, save sometimes after meals, when sugar may be detected. The process of destruction is not known, but when it is arrested, or the rate of glycogeny is excessive, we have, first, a saccharine condition of the blood, then of the urine, and so the disease called diabetes."

Correspondence.

HILLSBORO', ILL., July 26, 1873.

MESSRS. EDITORS,—In your issue of the 17th ult., I find an editorial on the "Suppression of Quackery," from which I beg leave to dissent.

It admits it to be one of the most "urgent" and "difficult questions" of solution, and "*rests* with the medical profession." So far we agree. "If the *law* forbade, as it should, ... but this is too much to hope for, for a long time at least." Can we expect the *law* to come to our rescue until the people are enlightened enough to see the necessity of the law? No; public sentiment must be made, and can only be made healthy and efficient *through* us by giving them sufficient light to see the darkness. The maxim, "a little learning is a dangerous thing," is false in theory and practice, gotten up for tyrants and aristocrats, and has done more harm than good; a little learning on any subject is better than ignorance, and we have no business to quote it to fortify a ring, clique or sect, and barricade light and knowledge. The article opposes the position of the *Canada Lancet* "for instructing the people in medical matters," and gently slurs "popular science as a hobby"; the more such *hobbies* the better. Is it a fact of small moment, that, during the last three decades, the Astor Library Reports show that, in place of one in fifty works of science being drawn as at *first*, the last year the number on science exceeded the number on literature and fiction? I have no sympathy with the sentiment, you must be *first*, *eminent* and *distinguished* in any branch and every calling you engage. It neither comports with the means and facilities we enjoy, nor is it compatible with the genius of our republican institutions; the contrary and better opinion prevails, the *general* dissemination of knowledge. The old world has given us lessons enough on *exclusive* and *infallible* habiliments. I am opposed to the *ring* system in politics or medicine; these cliques, sects and class monopolies are the bane of the country, the great barrier of progress.

Will you allow me to say this animus is not altogether concealed in the article referred to? It crops out when speaking of the "*exhibition* certain New York professors made of themselves at Steinway Hall." Are New York professors a whit behind Boston professors? Not a bit of it; and no such insinuations will disturb or injure them. Again, it says:—"Non-professional people are not able to judge of medical subjects, and it is not possible they should become so"; but it is possible they should become so sufficiently to judge what *system* they should use or what practice they should adopt! Again:—"Nothing that is worth knowing can be mastered without severe study"—an element of truth, but largely false, for everyone knows many things worth knowing that never required much study to master. I deny that "the motto of the most pestilent quacks is *public instruction*." Neither the public nor intelligent physicians recognize any such assumption, and if true of Boston, it is not of the West; and when books are spoken of "for the young," "the married" and "the unmarried," you but recognize a public want; the barrenness of ignorance, which fails to satisfy the soul—the conviction that we know too little of the laws of health and being—speak out in the purchase of just such trash. Why have not men of science and ability given the people the right kind of medical pabulum, instead of starving them with these *husks*, which the swine feed on?

The *profession* alone are guilty if the people are being educated in the wrong direction. It is *our* duty to *shape* public sentiment, not stand aloof, and, with a vast sense of our "dignity," say to the multitude, *you are not worthy of our teaching*, follow your blind leaders and go into the ditch together.

And now a word or two in regard to "raising the standard of medical education," with which the article closes, and which is proposed as the *only* way out of trouble, the *right* way to suppress *quackery*, rather than "instructing the people in medical matters."

We are in favor of raising the *standard;* this ought we to do and not to leave the other undone. Make "the degree something one may be proud to have earned," but do not forget the law of *supply* and *demand.* Streams seldom rise higher than the fountain. If "*like people like priest*" is anywise tenable, much more *like* "*people like doctor.*" The highest culture, the noblest endowments and the most thorough scientific training, we all accept, admire and applaud, but often the *degree* of which we are *proud* only shows that at *some* time the stream *once* rose that high, but now we look in vain for water, or even moisture, within its banks. If we wait until the "dignity of the profession will be recognized" by its high attainments, "sharply" defining the line between us and the irregulars, we shall wait a long time past the millenium. We shall not only be "laughed at and sneered at as bigots," as the writer's just apprehensions intimate, but, as venerable fossils, may reach eminence in some antiquarian depository, or in some museum as a medical deformity of the nineteenth century. Honest and sincere doubtless the writer is, but to my mind he seems to take an impracticable view, altogether Utopian. When we put ourselves out of sympathy with those who need our services by such stilted and visionary motives as run through this article, we are just outside of any possibility of accomplishing the end proposed. Respectfully yours, THOS. D. WASHBURN.

MESSRS. EDITORS,--These life insurance companies, of whom some one wrote in the JOURNAL of the 17th of July, or rather their agents, are among the nuisances which afflict us country doctors. They are generally adventurers of about the same stamp as lottery ticket venders; second-hand clergymen, whose congregations are to be congratulated upon their loss; and men of about the same stamp. I asked one of these fellows what would be the result if I declined furnishing the information, and received for answer, that my patient could not have his policy. In our town, we have found out a trick which rather disturbs them. We say:—"You can have the information you want for five dollars, provided you bring written permission from X. to give you the information." That did very well for a time; but then they adopted the plan of sending the applicant for insurance with the blank to be filled. This caused a change in tactics, and now we say, "tell the agent that we charge five dollars for filling up. If he does not choose to pay it, we know another and quite as good or better company, who will pay us for the certificate, and we can get you into that." The result has been to get rid of the agents.

But this life insurance business is, I fear, coming to an untimely end. Not that I care one fig for the companies, but feel very sorry for the insured. The companies pay out so much to agencies that many of them have got to fail, sooner or later. It has been the history on the other side of the water, and will be on this. A few men, officers, have made money, grown wealthy, but it has been by humbugging the insured. They have taken risks which they had no right to take. They have allowed agents to operate who do not fill out the answers of applicants fairly. They often employ men as examiners upon whom reputable physicians would look with absolute contempt. When in Boston, last spring, I saw a number of names of such in your directory, concerning whom I inquired. It is the same in country towns. I have known one who could not hear conversation five feet from him, make out a certificate of auscultatory signs. It was doubtless true that he heard no souffles and no râles.

There are two of your Massachusetts companies to whom the preceding statements will not apply, and I always send my patients to them, if they desire to be insured. One of these is the New England, the other the State Mutual at Worcester. I speak of these, because they both rejected me as an applicant for a policy, upon my own answers, although I had a clean bill, and a recommendation from their examining physician. This was more than twenty-five years ago, and I am still LIVING.

Oldtown, Vt., July 20, 1873.

Medical Miscellany.

GLYCEROLE FOR CHAPPING OF THE SKIN.—℞. Oxide of zinc, gr. xx.; tannic acid, gr. xv.; glycerine, ʒiv.; tincture of benzoin, ʒss.; camphor, gr. xv. M.

WE understand that Dr. Abraham Jacobi and Dr. Mary C. Putnam, of New York, are soon to be united in the bonds of matrimony. Such an alliance cannot be otherwise than extremely interesting in its bearing upon the female physician question. The experiment has been tried in London, as our readers may remember, and, we believe, with great success—professionally.

THE new and elegant hall of the New Hampshire Medical College has lately been completed, at a cost of ten thousand dollars. The cases are of black walnut, and the ceiling has been handsomely frescoed. This has been done partly by the liberality of a New York gentleman, Mr. Stoughton, and partly by an appropriation by the legislature. This improvement must have been a welcome one, for since the erection of the building in 1809, at a cost of $4,500, nothing has been done except what the Faculty have been able to accomplish with their private labor and purses.

WE are glad to hear that the young lady, upon whom Dr. Robert Battey, of Rome, Georgia, performed the extraordinary operation called normal ovariotomy, a year ago, has not only survived, but is in most excellent health. Her former pains have entirely ceased. Curiously enough, she had a flow from the womb, resembling the menstrual flux, every two to four weeks, up to a few weeks ago, since when she has seen nothing of it.

IT is proposed to close the subscription in America for the monument to Von Gräfe, on the 1st of September. Any sums received previous to that time will be sent to Berlin at once by the Committee. They may be forwarded to Dr. Henry W. Williams, 15 Arlington St., Boston.

THE MEDICAL REÇORD blames the profession for the extensive use of drugs by the public on their own responsibility. This growing evil seems to us to be due rather to the abominable system which floods the country with patent medicines. The directions accompanying these concoctions indeed, saves the doctor's fee, but imparts much false information to the purchaser. We are at a loss to see why a paternal government should not only countenance but protect such abuses. The profession are, undoubtedly, responsible, however, for the great popularity of preparations now furnished so extensively by manufacturing chemists. Though many of these medicines are reliable and convenient, we venture to predict, as well as to express the hope, that their reputation will be short-lived. Why do we have *officinal* drugs?

BOGUS DEGREES.—Philadelphia no longer enjoys this monopoly. The following is from the advertising columns of the Kladderadatsch.

"Doctor in Absentia der Philosophie, Medicin, Chemie, und Zahn-heilkunde wird mit Discretion vermittelt. Adresse Medicus, 46 Königstrasse, Jersey," which means that any one may be made a Doctor of Medicine, Chemistry or Dentistry, by applying to "Medicus." The Lancet rightly says, the more publicity we can give to such advertisements, the less likelihood of their entrapping the unwary.

THE following is from Dr. Parvin's address before the Medical Editors' Association:—

As Robert Southey well says in "The Doctor":—"Man is a dupable animal. Quacks in medicine, quacks in religion, quacks in politics know this, and act upon the knowledge. There is scarcely any one who may not, like a trout, be taken by tickling." A church dignitary once said, "*Populus vult decipi; et decipietur.*"

NOTES AND QUERIES.

Prescription Papers.—Among the absurdities, expensive absurdities of the day, is the furnishing of prescription papers to physicians by retail druggists. We are constantly receiving packages of these, sometimes in a bundle of a hundred or more, and occasionally with a very nice, fanciful pocket-book. One of these cases or pocket-books, which came under our notice a few days ago, was of Russia leather, very handsomely got up, and with a physician's name in gilded letters upon the cover. We took occasion to ask a druggist, some time ago, why he wasted his money in having physicians' names, &c., printed on these papers, together with his own? The answer was, "because doctors come in and ask for them. If we don't do it, they send their prescriptions to some one who will." We overheard a so-called *doctor* asking for something of the kind, and objecting to the last lot he had received, on account of their *getting up*.

In this matter of prescribing there are, it seems to us, one or two things to look after. In the first place, be sure that the prescription is properly written. Secondly, be sure that it is put up by a reliable druggist. This latter proposition may well be divided up. The patient has selected you, my friend, to treat his case. He had a perfect right to select you, had he not? He has always been in the habit of employing a certain apothecary. He had the right to do that, had he not? How you would growl if his apothecary should advise him to call in another medical adviser. Under certain circumstances, however, he might have the right to do so. Under certain circumstances you have the right, also, to ask him to change his apothecary. If you know that A is not competent to do his work, tell your patient to go to B. If you know that C is in the habit of buying an inferior class of drugs, send to D, whom you know to be more reliable. If you know that E has a particular article which your patient needs, and you are doubtful if any one else has it, why not send for it to E? But in the name of Galen, don't sell your patronage for a couple of quires of prescription papers, with your name and residence printed upon them.

It is a good plan to ask the patient whom he is in the habit of dealing with. If the druggist is reliable, that is enough. If you know the contrary, or if you have a doubt, suggest another, but be sure the doubt is not based upon a fancy monogram, got up to bait you with. Be sure not to let your doubt be based upon your ignorance of the difference or similarity between Glauber's salt and sulphate of soda, Indian root and ipecac.

Quire.

Erratum.—In the Journal for July 31, 1873, p. 113, 17th line, for "except that of Drs. Rockwell and Beard," read *especially that of*, &c.

Married,—At Frankfort-on-the-Main, 21st ult., Horatio R. Storer, M.D., to Caroline Gilmore, both of this city.

Mortality in Massachusetts.—*Deaths in eighteen Cities and Towns for the week ending August 2*, 1873.

Boston, 205—Charlestown, 14—Worcester, 27—Lowell, 53—Milford, 9—Chelsea, 7—Cambridge, 32—Salem, 21—Lawrence, 19—Springfield, 20—Lynn, 19—Gloucester, 6—Fitchburg, 8—Newburyport, 8—Somerville, 15—Fall River, 35—Haverhill, 5—Holyoke, 16. Total, 519.

Prevalent Diseases.—Cholera infantum, 180—consumption, 35—dysentery and diarrhœa, 24—scarlet fever, 15—typhoid fever, 15—cholera morbus, 12.

Holyoke reports six deaths from smallpox.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

Deaths in Boston for the week ending Saturday, August 9th, 223. Males, 122; females, 101. Accident, 5—abscess, 1—apoplexy, 3—inflammation of the bowels, 6—disease of the bladder, 1—disease of the bowels, 1—bronchitis, 2—inflammation of the brain, 5—congestion of the brain, 1—disease of the brain, 3—cancer, 5—cerebro-spinal meningitis, 4—cholera infantum, 84—cholera morbus, 6—consumption, 21—convulsions, 5—debility, 1—diarrhœa, 6—disease of the ankle, 2—dropsy of the brain, 1—dysentery, 5—delirium tremens, 1—scarlet fever, 8—typhoid fever, 3—gastritis, 3—disease of the heart, 4—hæmorrhage, 1—disease of the kidneys, 2—disease of the liver, 1—congestion of the lungs, 2—inflammation of the lungs, 3—marasmus, 9—measles, 1—old age, 5—paralysis, 2—pleurisy, 1—premature birth, 1—peritonitis, 1—sunstroke, 3—teething, 1—tumor of the abdomen, 1—unknown, 2.

Under 5 years of age, 132—between 5 and 20 years, 13—between 20 and 40 years, 32—between 40 and 60 years, 30—over 60 years, 16. Born in the United States, 170—Ireland, 34—other places, 19.